

**Hamsoft<sup>tm</sup>**  
**Manual For The**  
**Atari**

**Send / Receive**  
**MORSE / RTTY / ASCII**



## HAMSOFT FOR THE ATARI

Hamsoft is a software program for use with the Kantronics Interface or Interface II. Hamsoft allows reception and transmission of Morse Code, Radioteletype, and ASCII. Features of Hamsoft include:

- Morse Code send/receive - 5-99 WPM
- Radioteletype send/receive - 60, 67, 75, 100, and 132 WPM
- ASCII send/receive - 110, 150, 200 and 300 baud
- Split screen display
- 1024 character transmit buffer
- Automatic Morse speed tracking
- CW-ID during RTTY/ASCII
- 10 programmable message ports
- Printer compatibility - Centronics compatible parallel or Atari serial\*

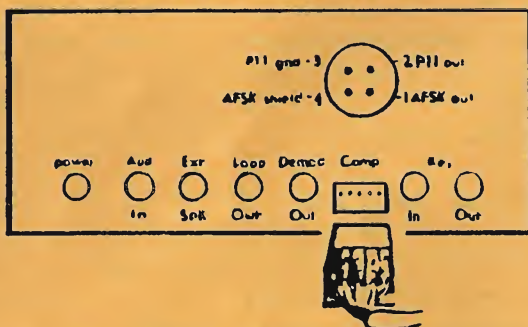
This program is warranted to work with the Kantronics Interface or Interface II. Instructions for use with an alternate terminal unit are included, but this in no way guarantees operation of the program with any other terminal unit.

\* A parallel printer can be used only with the Atari 400 or 800, not the XL series.

## INSTALLATION

Connecting the Hamsoft program to your computer is a simple process. First, make sure the power of the computer is off. Plug the Hamsoft cartridge into the cartridge slot (Use the left cartridge slot of the 800). Next, attach the cable to gameport #1 of the computer and the computer jack of the Interface. Insert the cable into the Interface with the exposed wire side up. See diagram.

### The Interface Back Panel



The computer cable is the only connection necessary between the computer and the Interface. Now follow the instructions in the Interface manual for connection of the Interface to the transceiver.

To familiarize yourself with the program, plug in the Hamsoft cartridge and leave the computer cable disconnected. This allows operation in an "off the air" mode.

## INITIAL OPERATION

With the Hamsoft cartridge inserted in the cartridge port, turn on the computer. The monitor will show the margin set display. Use the right and left arrow keys to set your margins.



Press the  
RETURN key and  
the main menu  
will appear.

KANTRONICS 00:00:00  
HAMSOFT V2.0  
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CHOOSE

A(ASCII)  
C(CW-MORSE)  
P(MESSAGE PORTS)  
R(RTTY)  
T(SET TIME)  
X(XMIT/RCV OPTIONS)

Menu selection is made by pressing the letter to the left of the the mode you wish to address.

Most of the main menu choices are transmit/receive modes. But before attempting to use the T/R modes you should understand all the options of the program.

THE ESCAPE KEY WILL RETURN THE PROGRAM TO THE MAIN MENU.

Additional operation options are as follows:

#### SET TIME

This option lets you to set the 24 hour clock by simply typing in the proper digits. The program will automatically return to the menu after the sixth digit is typed.

#### MESSAGE PORTS

The Message Ports feature of Hamsoft allows you to preprogram up to ten separate messages which can be transmitted with a single command.

From the menu  
select the  
Message Ports  
mode by  
pressing the P  
key. The  
following  
screen will  
appear.

PRESS NUMBER TO EDIT MESSAGE  
PRESS S TO SAVE MESSAGE PORTS  
PRESS L TO LOAD MESSAGE PORTS

Pressing any number will access the message port of that number. Enter information by typing in the message, using the cursor and delete keys to edit the message. Each of the ten Message Ports will hold 256 characters. Once a message is complete use the ESCAPE key to return to the message ports menu.

While in a transmit/receive mode any message can be placed into the transmit buffer by holding down the CTRL key and pressing the message port number.

Because all memory is lost when the computer is shut off, the message ports can be saved to cassette tape for later retrieval. To store the message ports to the Atari tape cassette, attach the cassette recorder and follow the standard saving procedures.

Press the S key to begin the saving process. Two beeps will sound and the screen will go blank. Cue the tape, then press RECORD and PLAY. The saving process will begin, and you will hear the data being saved. You must take special care to denote the location on the cassette when you save the message ports. The tape must be cued properly for you to recall the stored information. All ten message ports are saved as a single unit. When the saving process is complete the main menu will appear

on the screen, and the recorder will stop. Press the stop button on the recorder.

To reload the message ports return to the message ports mode and press L. One beep will sound and the screen will go blank. Cue the tape to the starting point where you saved the message ports. Press PLAY on the recorder and the loading process will begin. When the process is complete the recorder will stop and the program will return to the main menu.

### XMT/RCV OPTIONS

To enter the Transmit/Receive Options mode, depress the letter X. The screen should look like this:

00:00:00

A. USOS	ON
B. DIDDLE	OFF
C. AUTO ID	OFF
D. WRAPAROUND	ON
E. AUTO CR	ON
F. AUTO LF	ON
G. CRLF SUPPRESS	ON
H. BELL SUPPRESS	ON
I. TU	KANTRONICS
J. PRINTER	NORMAL

The following options directly affect operation of the Transmit/Receive modes. CAREFULLY READ THROUGH THESE INSTRUCTIONS BEFORE ATTEMPTING TO USE THE TRANSMIT/RECEIVE MODES.

Each option is set in an ON or OFF position. To change the status of an option, depress the letter to the left of that option.

A. USOS - UNSHIFT ON SPACE ON - With this option ON, the program will automatically return to the letters mode after each space received in RTTY. When receiving some



transmissions with multiple numbers transmitted in groups, such as the National Weather Service Teletype, you will want to switch the USOS feature OFF. Normal operation would be to leave the USOS feature ON.

B. DIDDLE OFF - This option gives the program the ability to send a null character when there is no character in the transmit buffer. This allows the receiving station to have a solid signal, for tuning purposes, during pauses in transmissions. The diddle feature only affects RTTY/ASCII transmissions.

C. AUTO ID OFF - With this option On the program will automatically transmit a CW-ID in the RTTY/ASCII transmit modes. Following every ten minutes of continuous transmission, message port zero will be transmitted in the CW-ID mode.

D. WRAPAROUND ON - To keep the program from breaking words at the end of a screen display line, the signal display jumps to the next line if a space is encountered in the last five spaces of the screen display line. To get more characters per line turn the wraparound option OFF. Wraparound works on both the receive and transmit displays.

E. AUTO CARRIAGE RETURN ON - During transmission of RTTY/ASCII this feature sends a carriage return automatically at the first space encountered after 65 characters, or after the 71st character if there is no space.

F. AUTO LINE FEED ON - This option allows the program to send a line feed automatically with each carriage return transmitted.

G. CRLF SUPPRESS ON - This option affects output of received information to the



printer. With option G ON, any carriage return or line feed received immediately following a carriage return will not be sent to the printer.

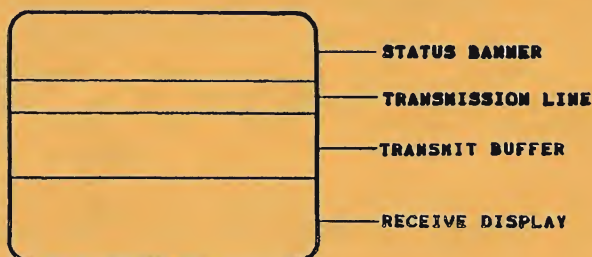
H. TU KANTRONICS - Hamsoft is designed to be used with the Kantronics Interface or Interface II. If you decide to use an alternate terminal unit, press the letter G and the screen will change to show OTHER in place of KANTRONICS. To connect your terminal unit check the ALTERNATE TU CONNECTION section of the manual.

Hamsoft is warranted to work with the Kantronics Interface or Interface II. We cannot guarantee operation of the program with any other terminal unit.

This completes the OPTIONS portion of the manual. To familiarize yourself with all the options available, attempt using the options without connecting the gameport computer cable. Once you feel comfortable with the options, return to the main menu and follow the Transmit/Receive Instructions.

#### CW/RTTY/ASCII TRANSMIT/RECEIVE OPERATION

Selecting the CW, RTTY, or ASCII transmit/receive mode from the menu will bring a split screen display up on the monitor.



The lower portion of the screen will print the received signal while scrolling upward. The top portion of the screen is the status banner, showing the mode, speed, clock, and indicating transmit or receive.

With the first character typed into the transmit buffer the screen will divide into four areas. The center of the screen is the type ahead buffer display, allowing you to type in up to 1024 characters for transmission. The transmission line is just above the transmit buffer display, and it will show the signal as it is transmitted.

Once one of the transmit/receive modes has been selected, control commands are used. Control commands are given by holding down the Control key and pressing the proper letter or number.

The ESCAPE key is used to return to the menu from any point in the program.

## CONTROL COMMANDS

CTRL R - RECEIVE - This command places the program in the receive mode. CTRL R can also be used to synchronize the program to incoming signals. If the signal seems to be properly tuned but not printing legibly, press CTRL R. This may help the program to properly decode the signal, especially with CW signals.

CTRL T - TRANSMIT - This command transmits any text in the transmit buffer. You can type into the transmit buffer while receiving, then press CTRL T to transmit the message.

CTRL S - SPEED CHANGE - To change the transmit speed press CTRL S. In the CW mode



pressing CTRL 3 will cause an ENTER TWO DIGITS command to appear in the transmission line. Enter any two digits from 05 to 99, and the transmit speed will change to the figure entered. CTRL S will cycle the RTTY and ASCII modes through all available speeds.

Transmit speed changes can occur only when you are in the receive mode.

CTRL U - INVERT - A practice sometimes encountered in using radioteletype is inversion of a signal, reversing the space and mark frequencies. CTRL U allows you to invert the incoming RTTY or ASCII signals to check for inversion. In the inverted mode the letter R of RTTY in the status banner will be reversed on the screen. In the ASCII mode the letter A will be reversed. Transmitted RTTY/ASCII signals will not be affected by CTRL U.

CTRL P - PRINTER CONTROL - CTRL P toggles the printer ON and OFF. A letter P will appear in the status banner when the printer is turned ON.

The following commands will appear in the transmit buffer screen display as reversed letters or numbers.

CTRL E - RETURN TO RECEIVE - Placing this command in the transmit buffer returns the program to the receive mode when it is encountered. Use CTRL E at the end of a transmission or message port for an automatic return to receive.

CTRL (0-9) - MESSAGE PORTS - Places the message port of the number chosen in the transmit buffer.

CTRL I - CW-ID - CTRL I sends a CW-ID during RTTY/ASCII transmissions. Place a CTRL I



command before and after your ID in the transmission buffer or message port. The program will shift to a CW-ID mode when the command is encountered, and return to normal transmission with the second CTRL I.

CTRL J - Line feed.

CTRL M or RETURN - Carriage return

CTRL L - this command sends the "LETTERS" character in the RTTY mode.

CTRL N - This command sends the "NUMBERS" character in the RTTY mode.

#### UPPER AND LOWER CASE

Hamssoft has the ability to transmit and receive upper and lower case in ASCII. ASCII is the only coded amateur format with two case capabilities. Use the CAPS key to enter the lower case mode.

Other transmit/receive modes can show upper and lower case in the transmit buffer, but lower case cannot be transmitted or received.

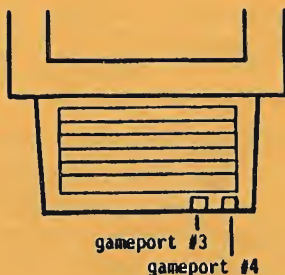
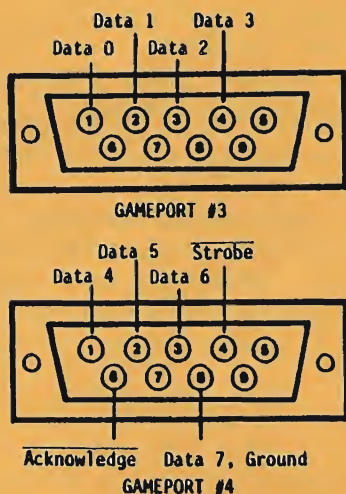
#### PRINTER CONNECTION

Hamssoft is compatible with any standard Atrai printer. Follow the connection instructions of the printer manual.

You must have the printer attached and turned on before the computer is powered on. The program checks the printer port when the program is initialized. If there is not a device attached to the port the program will not output data to the port. Use the CTRL P command to control data flow.

If you have an Atari 400 or 800, not the XL series, you can connect any centronics compatible parallel printer to gameports

three and four. Connect the lines according to the diagram below with corresponding functions lines of the printer.



If your data lines are numbered one through eight instead of zero through seven use one as zero, two as one, three as two, and so on. Also use the signal ground, not the chasis ground.

#### ALTERNATE TU CONNECTION

This software is written for use with the Kantronics Interface or Interface II; therefore Kantronics does not warrant the use of Hamsoft with any other terminal unit. However, if you choose to use an alternate TU we suggest the following connections:

#### Terminal Unit

#### Function

White-CW Key Out

Morse signals,  
active low

Red-RTTY Out

RTTY/ASCII signals

Mark high-Space low

Brown-Receive/Send	Normally high, Active low for RTTY ASCII transmitting
Green-Demod Out	Normally high, Active low when CW signal present, Active low when Space frequency present
Black- Ground	

CAUTION-Make sure the voltages on the lines of your transceiver and TU are TTL level compatible, not RS232. Kantronics is NOT responsible for inter-connection of any hardware not of our manufacture.

## TROUBLESHOOTING

To check for problems in operation of the Interface/Hamsoft system it is necessary to isolate the problem. This is done by connecting all components in the order given below. You must follow these instructions exactly for the troubleshooting system to work.

1. Disconnect all cables and turn power off.
2. Insert the program cartridge into the computer.
3. Turn on the computer. Set the margins and press RETURN. Then check the displays for Morse, RTTY, ASCII.
4. Turn the power off again. Attach the cable to the computer and the Interface. Also connect the cable from the external speaker of the receiver to the audio in of



the Interface, and attach the external speaker and power to the Interface.

5. Power on the computer, Interface, and transceiver, in that order.

6. Tune in a RTTY, Morse, or ASCII signal and check for operation of the 10 segment bar graph on the front of the Interface.

7. Initialize the program and step to the proper mode. Tune the signal until letters begin to appear on the screen. Display of characters at this point means that both the program and Interface are operating properly.

8. By carefully tuning the signal you should be able to get legible display. Not all signals are acceptable, if the first does not print, try another. Follow the tuning instructions included in the Interface manual.

9. Now add the cables for transmission. If problems arise as you attach additional cables, you have an improper cable connection. Check the Interface manual for correct cabling instruction.

Follow the troubleshooting steps exactly. By stepping through the troubleshooting guide you will be able to isolate the problem.

## Warranty

Kantronics warrants each new Hamsoft to be free from material, workmanship, and program defects under normal use and service for a period of 90 days. Following this period, for nine months, Kantronics will replace or repair, at our option, your Hamsoft at cost plus shipping and handling. This warranty is void if any attempt has been made to copy or alter the software.

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